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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/714,484

11/17/2003

Simon Charles Watt

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7590

11/27/2007

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EXAMINER

SEYE, ABDOU K

ART UNIT

PAPER NUMBER

2194

MAIL DATE

DELIVERY MODE

11/27/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/714,484

Applicant(s)

WATT ET AL.

Examiner

Abdou Karim Seye

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2194

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.


WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment filed on September 11, 2007 has been received and entered. The amendment amended Claims 1, 7, 9 and 13. The currently pending claims considered below are Claims 1-13.

Claim Rejections - 35 USC § 112

2. The amendment filed on September 11, 2007 has been entered. However, the Examiner notes that Claim 7 has a new matter added "circuitry".

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 7 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Currently amended claims recite the new limitations: "**circuitry**". Examiner was unable to locate any description of the claimed element circuitry in the applicant's specification. Applicant is required to cancel the new matter in the reply to this Office Action, unless the applicant provides the examiner where this limitation is taught.

Dependent claims 8-12 are also affected by the above rejected.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that forms the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-4, 6, 7-10, 12 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Saito et al. (US 20050149933).

As to Claims 1 and 7, Saito teaches a system, product and method of processing data with execution of data processing operations under control of either a first operating system or a second operating system, said method comprising the steps of:

receiving an interrupt for suspending execution of data processing operations (FIG. 5; paragraph 72, interrupting tasks to be executed);

in response to said interrupt, starting a stub interrupt handling routine executing under control of said first operating system (FIG. 5: 112; priority translation module);

as commanded by said stub interrupt handling routine, suspending execution of said stub interrupt handling routine and starting a main interrupt handling routine executing under control of said second operating system (FIG. 5: 123; paragraph 82);

executing said main interrupt handling routine under control of said second operating system to handle said interrupt (FIG. 6; abstract; paragraph 63, 74, 85);

as commanded by said main interrupt handling routine, resuming execution of said stub interrupt handling routine under control of said first operating system (FIG. 6; paragraph 63); and

as commanded by said stub interrupt handling routine, resuming said data processing operations, wherein if said main interrupt handling routine is interrupted by a further interrupt which when handled leaves processing under control of said first operating system, then said first operating system detects that said stub interrupt handling routine has been interrupted and resumes said stub interrupt handling so as to trigger resumption of said main interrupt handling routine (FIG. 6; paragraph 63).

As to Claim 2, Saito teaches, wherein when said interrupt occurs while data processing under said first operating system is suspended following data processing operations under control of said first operating system executing a call instruction calling data processing operations under control of said second operating system, said stub interrupt handling routine appears to said first operating system to be handling an interrupt which occurred during execution of said call instruction (FIG. 5; paragraph 70, 71 and 72; interruption associated with stopping the execution of tasks).

As to Claim 3, Saito further teaches, wherein said resumption of data processing operations as commanded by said stub interrupt handling routine is performed by re-executing said call instruction (FIG. 5 : 154; paragraph 72; reschedulers of tasks).

As to Claim 4, Saito teaches, wherein said call instruction is a software interrupt instruction (FIG. 12; paragraph 120; interruption software module).

As to Claim 6, Saito teaches, wherein switches between processing under control of said first operating system and processing under control of said second operating mode of operation executing a monitor mode program (FIG. 22; paragraph 156; monitoring module and the switching of operating system).

As to claims 8-10 and 12, they are rejected for the same reasons as the claims above.

As to claim 13, it is rejected for the same reason as the claims above.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103 (a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

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such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 5 and 11 are rejected under 35 U.S.C. 103 (a) as being unpatentable over **Saito et al. (US 20050149933)** in view of **Worley et al. (US 20020194389)**.

As to Claims 5 and 11, Saito teaches a system , product and method of processing data as in claims 1 and 7 above , but he does teaches, wherein said second operating system executes in a secure domain and said first operating system executes in a non-secure domain, wherein a data processing operations executing in said secure domain have access to secure data which is not accessible to a data processing operating executing in said non-secure domain.

However, in the same field of endeavor; accessing data, Worley clearly discloses a system with an interruption mechanism including multiple operating systems executing in privilege and non-privilege platforms for accessing secret/secure data in hardware resources (abstract; FIG 15 and 17; paragraph 116-117). It would be obvious to one having ordinary skill in the art at the time the invention was made to modify Saito's invention with Worley's invention in order to provide a secure data processing environment comprising of multiple operating systems and to allow operating systems to freely employ encryption services of the system. One would have been motivated to define privileged and non-privileged domain platforms and instructions associated with memory management mechanisms in order to provide performance or to simplify the interface to a domain operating system (Worley's; paragraph 135).

Response to Arguments

9. Applicant's arguments filed on November 11, 2007 have been fully considered but they are not persuasive.

a. Claim 1: applicant argues in (page 8, lines 18-21) that, "Saito does not anticipate the claimed limitation as commanded stub interrupt handling routine, suspending execution of said stub interrupt handling routine and starting a main interrupt handling routine executing under control of said second operating system". According to applicant's disclosure in (FIG. 32 and 33, page 54 and 55) the interrupt handling system includes priority when handling interrupts within a system having multiple operating systems. Saito's system in (FIG. 6; paragraph 63; 85 and 140) when handling the switching of operating systems uses elements modules (122 and 123; priority translation module) that include priority translation table when executed are capable of handling the interruption of tasks. Also each priority translation module is associated with an operating system. Therefore, these teaching of Saito's reference meets the claimed limitations of claim 1. Examiner has cited particular columns and line numbers and/or figures in the references as applied to the claims for the convenience of the applicant. Applicant is reminded that rejections are based on references as a whole and not just the cited passages. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant, in preparing the

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responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the cited art or disclosed by the examiner.

b. As for the remaining claims, Response to applicant's argument see the rejection and response to argument above.

Conclusion

10. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Exr. Abdou Seye whose telephone number is (571)


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270-1062. The examiner can normally be reached Monday through Friday from 7:30 a.m. to 4:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, contact the examiner's supervisor, William Thomson at (571) 272-3718. The fax phone number for formal or official faxes to Technology Center 3600 is (571) 273-8300. Draft or informal faxes, which will not be entered in the application, may be submitted directly to the examiner at (571) 273-6722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group Receptionist whose telephone number is (571) 272-3600

AKS
November 12, 2007


WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER